

Amendments to the Specification

IN THE WRITTEN DESCRIPTION

Please replace the paragraph beginning at page 24, line 9, with the following rewritten paragraph:

According to a further aspect of the invention under consideration, a teat cup cluster is provided that comprises a multiple number of teat cups, a multiple number of connection hoses that are connected to the teat cups and a retaining device ~~according to one of the preceding claims.~~

Please replace the paragraph beginning at page 25, line 15, with the following rewritten paragraph:

According to a further aspect of the invention under consideration, a milking parlour is provided with a support for holding and guiding a milk line and a control line, multiple teat cups that are in a fluid connection with the milk line and the control line and a retaining device ~~according to one of the preceding claims.~~ As a result of the use of the retaining device according to the invention, corresponding advantages, as already presented, result for the milking parlour when animals are milked.

Please replace the paragraph beginning at page 31, line 14, with the following rewritten paragraph:

Sensor devices that ascertain, for example, the kicking frequency or the movement of the animal's tail, can be based on various concepts; for example, for a sensor device for the tail position, a device for measuring the tilt, for example, a gradient switch, can be provided. Corresponding sensor elements are advantageously designed for wireless communication and can be left on the animals for longer lengths of time, so that, where required, other information can also be retrieved and used for monitoring or evaluation purposes. For example, the actuator according to the invention can be formed for wireless communication with a

corresponding sensor element on the animal's tail, in order thereby to monitor the effectiveness of the stimulation during the pre-stimulation phase and, where required, adjust the stimulating movement appropriately. In other examples, a corresponding sensor device that detects the level of excitation in the teat can be provided in one or more teat cups. Because typically, in the presence of successful stimulation of the teats, these being erect, this condition can be recorded in the teat cup, for example, by a pressure-sensitive component on or in the teat cup liner. Furthermore, the kicking frequency of the animals during the milking process can provide information on whether the milking process is currently being perceived as unpleasant by the animal. On the basis of corresponding signals, the stimulating movement and/or the position of the teat cup cluster on the udder can then be readjusted. In other embodiments, naturally two or more sensor devices with corresponding signals can be used, in order to obtain a clearer recognition of the stimulation status and to make it possible to react accordingly, using the actuator.

Please replace the paragraph beginning at page 36, line 12, with the following rewritten paragraph:

In an advantageous further development, the actuator element comprises a pneumatic driving device. By means of a pneumatic driving device, a relatively simply mechanical construction can be realized with comparably little effort in supplying the driving device. Because, particularly, pneumatically-operated devices are used in a milking installation, corresponding devices are, as a rule, available for the supply of a pneumatic device of that type, and can also be used for supplying the pneumatic driving device with compressed air or vacuum.

Please replace the paragraph beginning at page 43, line 24, with the following rewritten paragraph:

Fig. 4g

to 4i shows variants for various hose cross-sectional profiles, so that twisting of the hose sections in the retaining device is reduced;

Please replace the paragraph beginning at page 44, line 13, with the following rewritten paragraph:

Fig. 2a schematically shows a perspective view of a milking parlour 250 with a support 251 that is formed so as to hold and/or guide milk lines 217 and control lines 221. For this purpose, the support 251 can also have corresponding devices in the form of cables, mounting screws and the like, so that the milk line 217 and the control lines 221 can be appropriately mounted. For example, the support 251 can be formed in such a way as is also described with reference to Fig. 1b. A retaining device 200 is mounted to the support 251, wherein in preferred embodiments, the retaining device 200 can be moved back and forth at least between two positions. For this purpose, the retaining device 200 has a fastening device 201, which, in the depicted embodiment, is formed for swivel-mounting of the retaining device 200 on the support 251. For example, the fastening device 201 can have a ball-head hinge that can be fixed in a number of positions, so that the retaining device 200 can easily be oriented in two or more positions. For example, a preferred operating position of the retaining device 200 can be such that teat cups 210 are arranged essentially horizontally with reference to their longitudinal axis when they are held by the retaining device 200 in a fixed position relative to one another during a first operational phase. In this connection, it is pointed out that the term "first operational phase" should be understood as a phase that occurs, for example, immediately before a milking process, wherein all teat cups 210 are held by the retaining device 200, before one or more thereof are moved by means of the manual action of an operator relative to the retaining device 200. Although the virtually horizontal orientation of

the teat cups 210 in the retaining device 200 can be advantageous with respect to dirtying resulting from whirling particles of dirt, which can scarcely penetrate into the interior of the teat cups 210 in the case of a virtually horizontal arrangement, in other embodiments, it can certainly be possible to orient the retaining device 200 so that any desired tilting of the teat cups 210 can be achieved during the first operational phase. The retaining device 200 is furthermore arranged in such a way that it is possible to access the teat cups 210 manually during the first operational phase so that these are movable in several directions relative to the retaining device 200 and relative to at least one further teat cup 210. The phase during which all teat cups 210 are removed from the retaining device 200 will be referred to as the second operational phase in the following.

Please replace the paragraph beginning at page 49, line 7, with the following rewritten paragraph:

Fig. 2c and 2d schematically show a side view of a further embodiment of the retaining device 200, wherein the guide device 204 is executed in a manner that is mechanically very simple, so that ~~here~~ advantages result with respect to manufacturing costs, maintenance, wear and the like. In Fig. 2c, the retaining device 200 is shown in the first operational phase, i.e., the teat cups 210 are held in a position fixed to one another. The guide device 204 can, at the same time, having a chamber 212 for holding the accompanying hose section 202, which is arranged therein with a corresponding number of narrow windings, as shown in the figure.

Please replace the paragraph beginning at page 51, line 20, with the following rewritten paragraph:

Fig. 2h shows a further advantageous embodiment, wherein a turn-off device 220 is provided in combination with the retaining device 200. The turn-off device 220 is formed in such a way that when there is a sudden drop in the operating

vacuum in the teat cup 210, the milk line 217 (see Fig. 2a) to the teat cup 210 is closed in an air-tight manner. In one embodiment, a chamber 223 can be provided in the turn-off device 220 at the same time, in which chamber a pre-tensed sealing surface 222 is placed at a distance from an outlet 224 of the milk line when there is milking vacuum in the chamber 223, so that milk flow through the chamber 223 is possible. When atmospheric pressure enters from the inlet side 225, which, for example, can occur when a teat cup falls off of a teat, the sealing surface 222 is then pressed against the outlet opening 224. Furthermore, an operating element 226 is provided that is coupled to the sealing surface 222 and by means of which the outlet 244, when closed, can be opened, so that the air in the chamber 223 and in the milk line at the inlet 225 can be suctioned when a milking vacuum is desired in the teat cup. The turn-off device 220 can be provided additionally or alternatively to the vacuum switching mechanism 205. For example, the turn-off device 220 can be used as a means of switching the operating vacuum, wherein ~~then~~ in the first operational phase, the teat cups 210 are acted upon with atmospheric pressure and consequently the outlet 224 is held closed via the sealing surface 222. With the removal of the teat cups 210 and with their attachment to the teat, the operator can correspondingly operate the operating element 226 so that finally a milking vacuum arises at the teat. In other embodiments, a corresponding turn-off device 220 can be provided in a milking claw (not shown) that can be mounted in the retaining device 200 at a suitable position, in order to hold the individual milk flows of the teat cups, so that when any teat cup falls off, at least a shared milk line is closed with a gas-tight seal.

Please replace the paragraph beginning at page 57, line 18, with the following rewritten paragraph:

At the top, Fig. 4c schematically shows the container 403 of the retaining device 400 in the milking position during the

first operational phase, wherein the teat cups 410 are arranged essentially horizontally. At the bottom of Fig. 4c, the retaining device 400 is located in the cleaning position, ~~wherein here~~position wherein, here, an external cleaning device 470 is connected to the teat cups 410. In this way, where needed, a cleaning fluid 471 can be rinsed through the teat cups 410 and, optionally, the corresponding hose sections.

Please replace the paragraph beginning at page 58, line 22, with the following rewritten paragraph:

Fig. 4e shows a further embodiment in which the retaining device 400 is located in the intermediate disinfection position, wherein the teat cups 410 are partially "driven out" in order to immerse into the container ~~481~~480, which can be filled with a suitable agent, such as the disinfectant 481. Furthermore, lines 482 and 483 can be provided with assigned valves 484 and 485, so that fluids, such as water or disinfectant can be fed to the container 480 and taken away from it in a controlled manner. Consequently, the entire intermediate disinfection process can take place in the container 480 in a controlled manner.

Please replace the paragraphs beginning at page 60, line 15, with the following rewritten paragraphs:

~~In the middle of Fig. 4g~~Fig. 4h, a further example of a suitably profiled hose section 402 is shown, which, for example, can have two additional lines 402a, 402b in addition to the milk-conducting part 402d, wherein, for example, lateral rolls 419 provide the guidance.

~~In the lower part of the picture~~Fig. 4i, a further variant is depicted, wherein the profile shape by means of a strip 402c is suitable for use as a guide against twisting.

Please replace the paragraph beginning at page 64, line 26, with the following rewritten paragraph:

During the operation of the milking installation 600, the teat cup cluster 610 is manually attached to the udder of the animal, wherein beforehand a corresponding manual cleaning of the teats has taken place. As mentioned at the beginning, when there are larger numbers of animals, it may be that sufficient manual pre-stimulation is not carried out properly, so that often automated pre-stimulation is carried out by means of the pulsator 620. This type of pre-stimulation, which includes a folding of the teat cup liners at high frequency can, however, lead to damage to the mucous membranes, as a result of which the acid barrier of the teat can be impaired. By means of the actuator 650, therefore, an appropriate movement can be transferred during a pre-stimulation phase by the movement of the actuator element 652 to the flexible component, in the example shown, the milk hose 613, and finally, via the teat cup cluster 610, to the teats and the udder of the animal. In this connection, advantageously the pulsator 620 can be adjusted in such a way that at the beginning no suctioning of the teat cistern milk takes place, and the "hammer-like" folding of the teat cup liner is reduced or avoided completely. Advantageously the activation of the actuator 650 and the pulsator 620 is coordinated by the control device 660 in such a way that, during the pre-stimulation phase, little or even no milk is removed, and stimulation of sufficient duration is performed on the udder, without the risk of mucous membrane damage arising. For this purpose, the control device 660 can, for example, have the pulsator 620 adjust the teat cup liner folding at a high frequency for a certain minimum length of time, for example, one minute, and leave the teat cup liner folded while the actuator 650 incites the necessary mechanical stimulating pulses. After completion of the pre-stimulation, the pulsator 620 can then start the actual milking process by means of selecting the desired operating mode for the milking

process. In this connection, common-mode suctioning can also take place on the basis of the actuator 650 according to the invention, because a desired movement of the teat cup cluster 610 that relaxes and stimulates the smooth udder musculature can be incited by the actuator 650, and consequently the stimulating movement of the oscillation of the teat cup cluster 610, which is typically brought about by the pulsator 620, which is operated in two-frequency operation, is not necessary. At the same time, the control device 660 can be formed in such a way that two or more different types of movement can be called up, in order in this way to achieve a high degree of flexibility in the further stimulation during the milking process. In an advantageous embodiment, the control device 660 is formed as a wireless, mobile device with which one or more actuators 650 can be activated, so that corresponding different movement forms can be executed by the actuator elements 652. It is often common for multiple numbers of teat cup clusters 610 to be in use, wherein said teat cup clusters 610 are attached one after the other by a single person, so that different sequences arise for the milking process in individual animals, on the basis of the different times and animal-specific differences. In this case, the user can then address corresponding actuators 650 suitably by remote control, so that the stimulation for the diverse animals can be conveniently and individually adjusted, on the basis of the milker's experience, for example, by observation of the udder condition. For this purpose, the control device 660 can be arranged in a suitable manner so that, along with the transmission of appropriate control data to the multiple number of actuators 650, accompanying coding data can be sent, which is defined by the user, for example, at the press of a button, so that a certain actuator 650 can be selectively addressed. It is also possible for different radio frequencies to be used for different actuators 650. On the basis of the actuator 650 according to the invention, consequently, a stimulating movement of the teat cup cluster

610 on the udder is achieved additionally or alternatively, independently of the operating mode of the pulsator 620, so that an overall higher degree of removal of the milk can be achieved.

Please replace the paragraph beginning at page 68, line 4, with the following rewritten paragraph:

Fig. 6b schematically shows a portion of the milking installation ~~690~~600 according to further embodiments, wherein the actuator 650 is coupled to an actuator element 652 with a pulling device 670, which makes it possible to achieve an angle of tilt α , which is shown in the drawing as 90° , by pulling on the flexible milk hoses 613. In order to achieve the largest possible adjustment range for the angle of tilt α , the actuator element 652 can have a driven roll, so that a strap of the pulling device 670 can be correspondingly wound or unwound, in order to achieve the desired orientation of the teat cup cluster 610. In addition to a broad adjustment range for the angle of tilt α , a corresponding stimulating movement can furthermore be achieved around this base position that corresponds to the desired angle of tilt. For this purpose, the actuator element 652, after reaching the desired base position of the angle of tilt, can be moved back and forth around this position, in order to achieve a corresponding stimulating effect, in the example shown, with a base position of 90° with reference to the base of the udder. Naturally, the embodiment shown in Fig. 6b can also have all components of the embodiment shown in Fig. 6a, so that, in particular, the angle of tilt α can be adjusted by way of initiation, for example, automatically by the control device 660 or by an operator. In one embodiment, a sensor element 663a is provided on the teat cup cluster 610 as a sensor device, wherein the sensor element 663a can be sensitive to movement and/or to the position. This means that the sensor element 663a can generate a signal depending on the angle of tilt α and/or can generate a signal depending on the actual movement

of the teat cup cluster 610, which is then conveyed to the control device 660, which thereupon correspondingly activates the actuator 650. For example, on the basis of the signal 663a, the angle of tilt α can be determined during each phase of the milking process, so that the control device 660 then tracks the actuator 650 accordingly or adjusts a tilt desired for the particular milking phase. In a similar way, the movement actually incited by the actuator element 652 at the teat cup cluster 610 can optionally be determined by means of the sensor device 663a, so that a movement favourable for the stimulation can be achieved by a corresponding change to the activation of the actuator element 652. Consequently, for example, the type of movement of the teat cup cluster 610 brought about for a specified movement of the actuator element 652 depends on many factors, which can change from animal to animal and during the milking process. In this connection, it may be that oscillating movements brought about by the pulsator 620 can be calculated in a simple manner, where needed, by means of, for example, the movement of the teat cup cluster 610 being measured by the sensor element 663a when the actuator element 652 is not activated, and the control device 660 then taking this into consideration when the sensor signal is received with the activated actuator element 652.